THE DEPARTMENT OF
COMPUTER SCIENCE
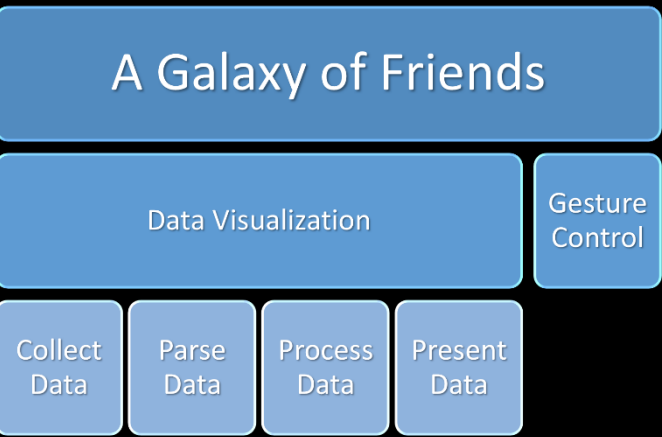& ENGINEERING
計算機科學及工程學系

A Galaxy of Friends

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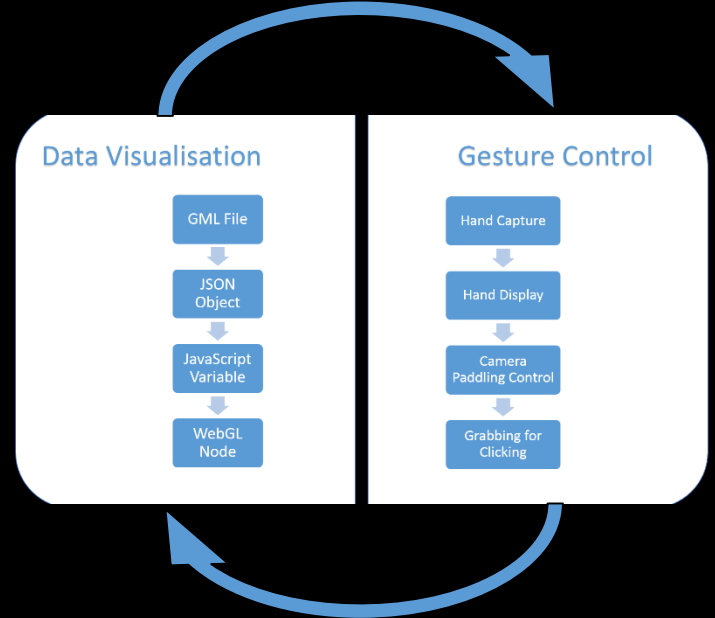Supervised by Prof. Huamin QU

INTRODUCTION

The use of social networks, such as Facebook and Twitter, has exploded during recent years. People all around the world are somehow got involved in a complex and large network of friendship, which is very difficult to manage. Aiming at provide a solution to this problem, "A Galaxy of Friends" accesses and analyzes the user's social network and generates a visualization of friends and connections in realistic 3D space. With the aid of Leap Motion Controller, a hardware that can capture hand gestures as inputs to the computer, this project implements gesture control to replace the traditional mouse and keyboard method. This interaction method provides an interactive and entertaining way for relationship management.
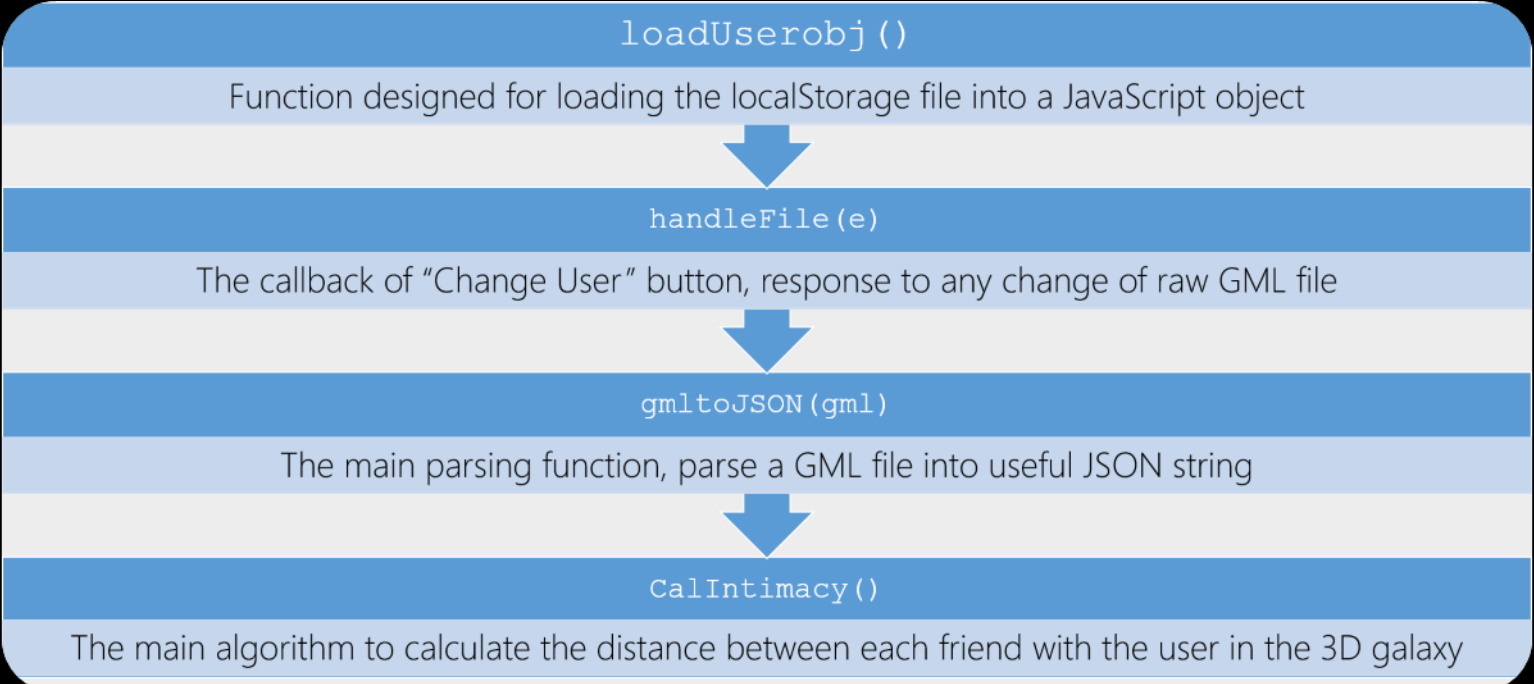
STRUCTURE

A Galaxy of Friends is a combination of data visualization and creative human computer interaction, with a focus on user interface design and gesture control.

Data collected from social networks is parsed, mined then displayed by a 3D Galaxy. User can view and manage their friendship network in the 3D view and their operations will be stored to the database.

DATA PROCESSING

`loadUserobj()`
Function designed for loading the localStorage file into a JavaScript object

`handleFile(e)`
The callback of "Change User" button, response to any change of raw GML file

`gmltoJSON(gml)`
The main parsing function, parse a GML file into useful JSON string

`CalIntimacy()`
The main algorithm to calculate the distance between each friend with the user in the 3D galaxy

USER INTERFACE

Empty Galaxy
This scene appears before any user's data is read. It includes the stars rotating constantly and a glowing solar at center representing the user him/herself.

With User Data
Nodes appear after the user's .GML file is read by the program. Distance between each node and the solar represents the intensity of friendship.

USER INTERACTION

Name card appears when user hovers on a node.

Edit window shows in the center when "click" happens

User can use hand gesture to control the application.

Gesture output as glowing particles in the galaxy.

CONCLUSION

Instead of focusing on activities update as most of social network applications, "A Galaxy of Friends" analyzes and presents the complicated friendship network behind SNs. It also utilizes the new gesture detection technology and integrate the entertaining way of control with useful functionality as relationship management. With these features, this application can hence become a unique and helpful tool for all SN users.